#33/appeal
Blue
Panel

Practitioner's Docket No. 17201.706

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Kenneth Soohoo	)	
Serial No.: 09/261,081	)	Group No.: 2672
Filed: 03/02/1999	)	Examiner: Good-Johnson, Motilewa
For: Anti-Aliasing System and Method	)	

APPELLANT'S BRIEF

Mail Stop Appeal Brief - Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sirs:

In accordance with the Notice of Appeal From the Primary Examiner to the Board of Patent Appeals and Interferences filed with the above-identified U.S. Patent Application on June 11, 2003, the Applicant hereby presents the Appellant's Brief under 37 CFR § 1.192. As required under 37 CFR § 1.192(a), the Appellant's Brief is filed in triplicate and is accompanied by the requisite fees as set forth in the accompanying Transmittal Form PTO/SB/21 under 37 CFR § 1.192.

I.   REAL PARTY IN INTEREST

All right, title, and interest in U.S. Patent Application 09/261,081 and the invention described therein is in Planetweb, Inc., a California corporation, having a place of business at 3400 Bridge Parkway, Suite 101, Redwood City, California 94065.

II.   RELATED APPEALS AND INTERFERENCES

The Applicant knows of no related appeals or interferences which will directly affect, will be directly affected by, or will have a bearing on the Board's decision in this appeal.

III.   STATUS OF THE CLAIMS

The application under appeal includes pending claims 30-38 and 67-68. Claims 30-38 and 67-68 stand rejected under 35 U.S.C. § 103(a). The Applicant is appealing the rejection of claims 30-38 and 67-68.

IV.   STATUS OF AMENDMENTS

The Applicant has submitted a Response to Office Action Under 37 C.F.R. § 1.116 on February 10, 2003 and a Supplemental Response to Office Action Under 37 C.F.R. § 1.116 on February 13, 2003. On June 11, 2003 Applicant filed a Notice of Appeal.

Applicant has canceled claims 16-29 and 39-66 without prejudice and has amended claim 68 in Applicant's Supplemental Response submitted on February 13, 2003. Such amendment was made after the final rejection and has been entered for the purposes of appeal as indicated in item 7 of the Advisory Action mailed on August 25, 2003.

V.   SUMMARY OF THE INVENTION

The invention relates to methods for displaying items, such as for displaying shapes or characters on a display device. Where a shape is represented as a series of pixels that are either on or off, the shape rendered on a display device may not appear as it is intended if the details of the shape are finer than the geometry of the pixels. One approach is to adjust the luminances in the display of the shape, in order to make the display of the shape appear more accurate, even where the number of pixels may be relatively low. Such an approach is known as anti-aliasing, according to some applications. Embodiments of the invention may be used in anti-aliasing.

An embodiment of the invention is directed to a method of displaying a shape. The shape is to be displayed a particular size on a display, and a command is received to generate the shape. A bit map rendering of the shape is requested in which the shape has a size larger than the particular size. Various portions of the bit map correspond to a pixel, and among the various bits that correspond to the pixel, different bits correspond to different locations on the character. Based on a percentage of bits that are on in respective portions of the bit map, luminances are determined for the corresponding pixels of a rendering of the shape on the display having the particular size. The shape is displayed on the display in the particular size with the pixels having the determined luminances.

Another embodiment to the invention is directed to a method of displaying a set of characters. A command to generate a character from the set of characters is received in a system having a specific hardware display device that has a specific resolution. If the character has already been processed and is available in a cache, the character is displayed. If the character has not already been processed, a representation of the character is determined in a bit map having a number of bits greater than a number of pixels in a region of the display device in which the character is to be displayed, taking the resolution of the hardware display device into consideration. Various bits in the respective portion of the bit map correspond to a pixel, and among the various bits that corresponds to the pixel, different bits correspond to different locations on the character. Based upon a percentage of bits that are on in respective portions of the bit map, luminance is determined for corresponding pixels. The character is displayed in the region having the particular number of pixels, and the pixels are displayed with the determined luminance.

According to an embodiment of the invention, using a bit map to determine luminances has an advantage of allowing for relatively fast calculation of luminance. Less CPU power may be used by the system. Also, using such a method to anti-alias a font for display of a character, less storage space maybe required because use can be avoided of bit map fonts that are already anti-aliased.

VI.   ISSUES

The issues on appeal are whether (a) rejection of claims 30-38 and 67 under 35 USC § 103(a) in view of U.S. Patent No. 6,208,319 (Nishida) in view of U.S. Patent No. 5,555,360 (Kumazaki) is proper, and (b) whether rejection of claim 68 under 35 USC § 103(a) in view of U.S. Patent No. 6,208,319 (Nishida) in view of U.S. Patent No. 5,555,360 (Kumazaki) is proper.

VII.   GROUPING OF CLAIMS

Applicant considers each of the claims to be separately patentable over the cited references. For purposes of patentability, in this appeal, however, Applicant groups all pending claims into two separate groups. These groups are (a) claims 30-38 and 67 and (b) claim 68. These groups of claims do not stand or fall together. The reasons each such group of claims is patentable are set forth in the Argument section of this brief.

VIII.   ARGUMENT

Claims 16-65 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,208,319 (Nishida) in view of U.S. Patent No. 5,555,360 (Kumazaki). Applicant respectfully submits that the Examiner's rejections fail to give weight to express limitations of the claims that are not disclosed, taught or suggested by the references cited. Thus, Applicant believes the rejection is incorrect because the Examiner has failed to make a prima facie case of obviousness.

A.   The Office Action Fails to Make a Prima Facie Case of Obviousness with Respect to the Patentability of Claim 30.

Nishida fails to teach the method of claim 30 and teaches away from the approach of this claim. Claim 30 recites (emphasis added):

> 30.   A method for displaying a shape the method comprising:
> receiving a command to generate the shape, the shape to be displayed a particular size on a display,

requesting a bit map rendering of the shape in which <u>the shape has a size larger than the particular size</u>, wherein

various portions of the bit map correspond to a pixel; and

among the various bits that correspond to the pixel, different bits correspond to different locations on the character;

based on a percentage of bits that are on in respective portions of the bit map, determining luminances for the corresponding pixels of a rendering of the shape on the display having the particular size; and

displaying the shape on the display in the particular size with the pixels the determined luminances.

The Office Action states that claim 30 is rejected based on a similar rationale as independent claim 16 and dependent claims 2, 5 and 7. Applicant does not believe that the reasoning in the Office Action with respect to such claims applies to claim 30. In particular, claim 30 includes receiving a command to generate the shape, the shape to be displayed a <u>particular size on a display</u>. Claim 30 further includes requesting a bit map rendering of the shape in which the shape has a size <u>larger than the particular size</u>. In contrast, Nishida teaches a <u>general purpose</u> display signal <u>applied commonly</u> to various hardwares. See Nishida at column 18, lines 19-21. Thus, Nishida fails to teach receiving a command to display a shape <u>a particular size</u>, and requesting a bit map rendering of the shape <u>larger than</u> <u>the particular size</u>. Rather, since Nishida teaches a <u>generic display signal</u>, there is no teaching of receiving a command to display a shape a particular size, and then to request a bit map rendering of the shape <u>larger than that particular size</u>.

The Office Action indicates that it is well known in the art that for an image to be displayed on a display device, the display attributes are necessary for displaying the image correctly. However, Nishida still teaches a <u>generic display signal</u>. In fact, Nishida states "... even if the device body 100 is exchanged into a hardware having higher resolution, or even if it is exchanged into a hardware having lower resolution, it is sufficient that <u>control unit</u> 40 delivers <u>entirely the same</u> <u>display signal</u>." (Nishida, column 18, lines 30-33) Of course, the signal is later displayed on a device with display attributes. However, Nishida does not teach receiving a command to display a shape a <u>particular</u>

size, and then requesting a bit map rendering of the shape <u>larger than that particular size</u> as claimed in claim 30.

The Office Action states that Nishida discloses a number of bits larger than the divisional level of the display for displaying the shape to be displayed on column 11, lines 16-67 of Nishida. (See Office Action, page 9) However, as discussed above, Nishida still does not teach <u>receiving a command</u> to display a shape a <u>particular size</u>, and then requesting a bit map rendering of the shape <u>larger than that particular size</u> as claimed in claim 30.

The Office Action also states that Nishida discloses display signals corresponding to the resolutions of display devices to select commands to display the picture at a corresponding resolution of the divisional level, citing column 22, lines 49-67 of Nishida. However, note that the cited portion of Nishida teaches devices selecting a command <u>in conformity with</u> their <u>own resolution.</u>" (Nishida, column 22, lines 49-51) Thus, Nishida is not teaching requesting a bit map rendering of the shape <u>larger than the particular size in which the shape is to be displayed</u> as claimed in claim 30, because Nishida is teaching selection of a command in <u>conformity with</u> the device's resolution. Further, this section of Nishida is teaching <u>selection</u> of an already existing command, rather than <u>requesting</u> a bit map rendering of a shape <u>larger than the particular size</u> in which the shape is to be displayed. Thus, Nishida still teaches creation of a general purpose display signal. In the cited section, however, Nishida teaches that the devices may <u>select</u> a particular command in conformity with their own resolution.

Thus, even in combination, the cited references fail to teach or suggest claim 30. Accordingly, removal of the rejection of claim 30 is respectfully requested. Removal of the rejection of claims 31-38 is also respectfully requested, such claims being patentable for at least the reasons as to their parent claim as well as independently patentable.

B.   The Office Action Fails to Make a Prima Facie Case of Obviousness with Respect to the Patentability of Claim 68.

Claim 68 recites (emphasis added):

> 68.   A method of displaying a set of characters, the method comprising:
> in a system having a specific hardware display device that has a specific resolution, <u>receiving a command to generate a character</u> from the set of characters;
> <u>if the character</u> has <u>already been processed</u> and is available in a cache, displaying the character;
> <u>if the character has <u>not already been processed</u>, <u>taking the resolution of the hardware display device into consideration</u>, determining a representation of a character in a bit map having a number of bits greater than a number of pixels in a region of the display device in which the character is to be displayed wherein
> various bits in a respective portion of the bit map corresponding to a pixel; and
> among the various bits that correspond to the pixel, different bits correspond to different locations on the character;
> based on a percentage of bits that are on in respective portions of the bit map, determining luminance for corresponding pixels; and
> displaying the character in the region having the particular number of pixels, the pixels being displayed with the determined luminance.

It is believed that the cited references fail to teach the invention of claim 68. For example, the references fail to teach <u>if a character has already been processed</u> and is available in a cache, displaying the character, <u>and</u> <u>if the character has not already been processed</u>, determining a representation of a character in a bit map having a number of bits greater than a number of pixels in a region of the display device in which the character is to be displayed.

It is further believed that there is no motivation in the references to achieve the invention as claimed in claim 68. The cited portion of Nishida that discusses a divisional mode finer than the actual display elements is directed to display of a "common <u>display signal</u>" provided to different devices. (See Nishida at column 18, lines 34 - 56) The goal in this portion of Nishida is thus to <u>display</u> the <u>common display signal</u>. There is no discussion of trying to solve the problem of anti-aliasing a character. Since Nishida does not recognize this problem, there would be no motivation to modify Nishida to solve the problem, or to provide an improved solution of storing anti-aliased characters in a cache for later use. Although the claims do not require anti-aliasing, the invention

can be used to solve this problem. Nishida is not directed to solving this problem. Thus, in view of Nishida, one would not have been motivated to arrive at the invention of claim 68.

Thus, one would not be motivated to display <u>some</u> characters <u>if the character has not been processed</u> and is available in a cache, but, for <u>other characters</u>, <u>determine a representation of the character</u> in a bit map having a number of bits greater than a number of pixels in a region of the display device in which the character is to be displayed.

The Office Action states that it would have been obvious to include storing processed characters to deliver high speed operations. The Office Action points to no teaching or suggestion in the references for this statement. Further, even in view of an attempt to achieve high speed operations, one would not be motivated to modify Nishida to achieve the invention. Thus, the Office Action has failed to make a <u>prima</u> <u>facie</u> case of obviousness. Nishida provides no teaching of displaying a set of characters with the goal that some of the characters are to be repeated later. Thus, since Nishida does not provide a teaching of displaying characters with the goal that some of the characters may be repeated later, there exists no motivation in Nishida to display character that has already been processed and is available in a cache as claimed in claim 68. The vague aspiration of achieving high speed operations would not have motivated one to modify Nishida to achieve the particular solution claimed in claim 68.

Further, as noted above, Nishida is directed to display of a "common <u>display signal</u>" provided to different devices. (See Nishida at column 18, lines 34 et seq.) The goal in this portion of Nishida is thus to <u>display</u> the <u>common display signal</u>. It is not clear from Nishida whether one would want to query a memory for a character, because the stated goal is to <u>display</u> the actual <u>common display signal</u>. If one were to use a cache, the goal of displaying the common display signal would not be accomplished, since the information is obtained from the <u>cache</u>, rather than from the common

<u>display signal</u> that is to be displayed. Thus, for this additional reason, Nishida fails to teach or suggest the invention claimed in claim 68.

C.   For the Purposes of the Appeal, Other Pending Claims are Patentable for at Least the Reasons Set Forth Above as to Claim 30.

Claims 31-38 and 67 depend from claim 30 and are patentable for at least the reasons as to claim 30. It is therefore believed that the rejection of such claims should also be removed. Claim 68 is independently patentable for the reason discussed above.
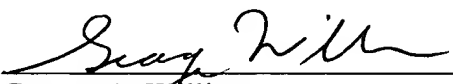
D.   Conclusion

For the reasons stated above, even in combination, the references fail to teach or suggest the invention claimed in claims 30-38 and 67-68.

IX.   CLOSING

Accordingly, Applicant respectfully submits that the Examiner's rejections are in error and that the claims are allowable over the prior art of record. Further, it is submitted that the present application is in form for allowance and, such action is respectfully requested.

Respectfully submitted,

October 29, 2003
Date

By: _____
George A. William
Registration No. 41,378

CUSTOMER NO. 021971
Wilson Sonsini Goodrich & Rosati
650 Page Mill Road
Palo Alto, CA 94304
(650) 493-9300

APPENDIX - CLAIMS

30.   A method for displaying a shape the method comprising:

receiving a command to generate the shape, the shape to be displayed a particular size on a display,

requesting a bit map rendering of the shape in which the shape has a size larger than the particular size, wherein

various portions of the bit map correspond to a pixel; and

among the various bits that correspond to the pixel, different bits correspond to different locations on the character;

based on a percentage of bits that are on in respective portions of the bit map, determining luminances for the corresponding pixels of a rendering of the shape on the display having the particular size; and

displaying the shape on the display in the particular size with the pixels the determined luminances.

31.   The method of claim 30, wherein determining luminances comprises counting a number of bits on in a portion of the bit map corresponding to a pixel.

32.   The method of claim 30, wherein the size larger than the particular size is at least twice as wide as the particular size.

33.   The method of claim 30, wherein the size larger than the particular size is at least ten times as wide as the particular size.

34.   The method of claim 30, wherein the shape comprises a character.

35.   The system of claim 30, the display comprising a television.

36.   The system of claim 30, the display comprising a color television.

37.   The system of claim 30, the display comprising a display of a hand held device.

38.   The system of claim 30, comprising logic for communication with the internet.

67.   The system of claim 30, wherein the logic that renders the bit map is not particularly adapted to be used with the logic that determines luminances.

68.   A method of displaying a set of characters, the method comprising:

in a system having a specific hardware display device that has a specific resolution, receiving a command to generate a character from the set of characters;

if the character has already been processed and is available in a cache, displaying the character;

if the character has not already been processed, taking the resolution of the hardware display device into consideration, determining a representation of a character in a bit map having a number of bits greater than a number of pixels in a region of the display device in which the character is to be displayed wherein

        various bits in a respective portion of the bit map corresponding to a pixel; and

        among the various bits that correspond to the pixel, different bits correspond to different locations on the character;

based on a percentage of bits that are on in respective portions of the bit map, determining luminance for corresponding pixels; and

displaying the character in the region having the particular number of pixels, the pixels being displayed with the determined luminance.